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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Siemens Corporation
Intellectual Property Department
170 Wood Avenue South
Iselin, NJ 08830

EXAMINER	
STERRETT, JONATHAN G	

ART UNIT	PAPER NUMBER
3623	

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10/19/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/511,283	GIRBIG, PAUL	
	Examiner	Art Unit	
	JONATHAN G. STERRETT	3623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *6-23-09*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *3-8* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *3-8* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *7-15-09, 10-8-09*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Summary

1. This **Final Rejection** is responsive to the amendment of 23 June 2009. Currently Claims 3-8 are pending in the application.

Response to Amendment

2. The 35 USC 112 rejections are withdrawn.

Response to Argument

3. The applicants arguments have been fully considered but are not persuasive.

The applicant argues that the cited references fail to teach generating a strategy for correcting deviations of actual characteristic variables of a sub aspect from the ideal characteristic variables upon selection of the subaspect and displaying the strategy upon selection of the sub aspect.

The examiner respectfully disagrees.

Klenz teaches in page 3 para 6 that historical data provides (i.e. generates) a short list (i.e. strategies) of corrective actions that were (1) previously successful in correcting deviations in process variables and (2) applicable to current operating conditions. A person of ordinary skill in the art would recognize that the identification and provision of historical solutions to problems which match old problems so that the new problems can be resolved is the generation of a strategy for correcting deviations as claimed. The problem that Klenz is trying to solve is the same as the applicant – i.e.

how does one bring an out of control process variable back into control – how does one make adjustments to the process to bring the out of control (i.e. or deviating variable) back into control? The solution as provided by Klenz is to use the data in the data warehouse to identify similar problems in the past (with respect to a particular control variable) and provide a list of solutions that were used to correct that variable. These solutions are "strategies for correcting deviation" as claimed.

The examiner notes that while the applicant “generates a strategy”, there is no discussion in the specification for how this is done. Klenz explains in more detail what the basis for the strategies for correcting deviating process variables - use the corrective techniques that were successful in the part for correcting similar problems. The extent of the applicant's disclosure is much more sparse. All that is disclosed in the specification is to generate a popup window to show a strategy - there's no discussion for how the strategy is determined. Based on the Wand’s factors for enablement, this suggests that determining and generating what those strategies should be for out of control process variables is known in the art, since the applicant does not disclose what the basis for generating the strategy is or should be. The Klenz reference teaches more than the applicant’s specification regarding identifying and providing (i.e. generating) the strategies for correcting out of control process variables.

The applicant argues that the cited references fail to teach a “best way” for correcting an out of control process variable.

The examiner respectfully disagrees.

The examiner notes that this amended limitation has no support in the specification, and as such, is not enabled as rejected below. Additionally, since Klenz teaches providing a list to correct process deviations, as discussed above, this is a "best way" to correct process deviations (i.e. follow the list) as much as is claimed by the applicant.

The applicant argues that the cited reference fails to teach indicating for each variable which variable needs to be adjusted.

The examiner respectfully disagrees.

A spider diagram by it's nature has more than one variable displayed on it (Germeraad). Klenz teaches using SPC (statistical process control) techniques which in combination with Germeraad suggests having process control indicators for each variable displayed on the spider diagram. Fowler teaches using a feedback control to control a process variable. Germeraad, Klenz and Fowler thus suggest a spider diagram with SPC indications and a feedback control indicator to change each variable that is measured on the spider diagram. Additionally since Fowler teaches providing a feedback control for at least one variable, then providing feedback control for a plurality of variables for each variables does not convey patentability (i.e. a duplication of parts per In re Harza).

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 5 and 7 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claims 5 and 7 describe providing the “best way” to provide for process corrections. While the specification does disclose providing a suggestion or approach for correcting and out of control process variable, there is no disclosure as to how this provision in the specification is the ‘best” way to do so. Providing a “best” way implies that there are other options available. Since the applicant only briefly describes a popup window with one suggestion, the specification is not enabled for determining a “best way”.

Claims 5 and 7 are also rejected as being amended to include "new matter". There is no suggestion or mention in the specification of providing a 'best way" to correct a process deviation as is claimed. The examiner requests the applicant cancel this limitation as being new matter.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. **Claims 3-5 and 7** are rejected under 35 U.S.C. 103(a) as being unpatentable over Paul **Germeraad**, "Intellectual property in a time of change", Research Technology Management. Arlington: Nov/Dec 1999. Vol. 42, Iss. 6; p. 34 (6 pages) (hereinafter **Germeraad**) in view of **Klenz**, Bradley W; "The Quality Data Warehouse: Serving the analytical needs of the manufacturing enterprise", Milwaukee 1999, p.521, 9 pgs. ProQuest ID 53786375. (hereinafter **Klenz**) and further in view of W Jiang, KL Tsui, "An economic model for integrated APC and SPC control charts"- IIE Transactions, 2000 – Springer, (hereinafter **Jiang**)

Official Notice is taken of the following elements:

Using computer systems, including hardware and software, to automate process steps, such as taught by Germeraad and Klenz (and Fowler below) are old and well known in the art.

Using computer graphic user interfaces is old and well known in the art.

The use of popup windows in these user interfaces to convey information is old and well known.

The use of a control element in a graphical user interface, including in a popup window, is old and well known.

The combination of these elements with the measurement elements of Germeraad and Klenz (and below also with Fowler) would have been obvious to one of

ordinary skill in the art at the time of the invention because adding these elements, known in the art of computing, would have provided a predictable result by providing a GUI with popups and controls. This combination with the teachings of Germeraad and Klenz (and Fowler below), would not destroy either the functionality of either the subject of the Official Notice or the combined teachings of the cited references.

Regarding **Claim 3**, Germeraad teaches:

3. A method for controlling a process flow, comprising:

determining a plurality of ideal characteristic variables for the process flow that describe a sub-aspect of the process flow and define a desired target for each sub-aspect;

determining actual characteristic variables of the sub-aspects of the process flow at an observation time point and the actual state of the process flow in the observation time period is described by the actual characteristic variables;

Page 35, Germeraad teaches the use of a radar diagram with sub aspects that measure various business process attributes.

the actual points are graphically connected by connecting lines so that the area enclosed by the connecting lines is a measure of the quality of the process flow in the observation time period.

Page 35, Klenz suggests using a radar diagram so that the points measured on the axes are connected to form an area.

Germeraad does not teach, but Klenz teaches

determining a plurality of deviations of the actual characteristic variables from the corresponding ideal characteristic variables with the changes over time of the actual characteristic variables being included; and

page 4 para 1-3, Klenz teaches the application of Statistical Process Control (i.e. Six Sigma methods) to measure variables in a process so that deviations can be tracked and corrected over time.

representing the ideal characteristic variables as an optimum point in a display field of a visualization system and the actual characteristic variables are shown as an actual point at a distance from the optimum point and

page 6 under data warehouse basics, Here Klenz suggests measuring various process capabilities (i.e. being in control of a process or not suggests that ideal characteristics of a process are charted – when those variable are out of control, Klenz suggests using SPC techniques to correct the deviations.

Generating a strategy for correcting deviations of actual characteristic variables of a sub-aspect from the ideal characteristic variables and

Page 3 para 6, Klenz teaches using past corrective techniques in conjunction with current operating conditions which suggests that past techniques which fixed out of control problems are used as strategies to fix current problem. The data is contained within historical records of the process. (the examiner notes that since Klenz teaches monitoring and correcting individual variables from among all the variables measured,

this meets the claim limitation of actual characteristic variables from the ideal characteristic variables, i.e. ideal variable status vs actual variable status).

Displaying the strategy upon selection of the sub-aspect;

Since popup windows are old and well known, and Klenz suggests using strategies based on prior process fixes that are applicable to current operation conditions (i.e. when a problem repeats itself in the process, use the previous corrective techniques which worked in the past), the combination would have been obvious to one of ordinary skill in the art by using known visual technique (i.e. a popup window) to display the information shown to be in Klenz, because the result would predictably provide the corrective action (i.e. the strategy as taught by Klenz) in a popu window.

Klenz and Germeraad are addressing issues with how to manage the data that companies have in an efficient way. Both references teach where the multitude of data makes it difficult to efficiently measure what is going on in a firm.

Germeraad suggests the use of the Radar Diagram to efficiently capture and display data so that managers can see what is happening at a glance. Germeraad suggests this because of the wide amount of data that is available to measure.

Klenz teaches that companies can apply SPC techniques to efficiently measure and react to the vast amounts of data that is gathered. Klenz teaches that this data is more than just traditional manufacturing data, but can come from other parts of the organization (see page 1 para 1).

One of ordinary skill in the art would combine Germeraad with Klenz to achieve a predictable result by applying the statistical process control techniques of Klenz to the radar diagram of Germeraad to provide a radar diagram that provides overall process indicators to indicate when the business variables indicated on the radar diagram were out of control or not. The advantages would be providing a compact visual that efficiently summarizes information and provides the benefit of also indicating statistical control, thus providing a predictable result.

Further, Germeraad teaches the need for companies to effectively manage and make decisions based on information that is presented in graphical format (i.e. a radar diagram). One of ordinary skill in the art would understand that the radar diagram's graphical indications (e.g. one measure is lower on a scale than would be desired by management) provide a basis for making decisions by management by indicating where the organization is with respect to what is being measured.

Klenz teaches a quality data system that uses known tools to measure quality aspects, including the standard statistical process control charts. On page 2 para 10, Klenz states “To make enterprise-level quality decisions, data from these individual systems must be combined into meaningful information”. The decisions Klenz is referring to underscores the understanding that one of ordinary skill in the art would have, that systems that measure some aspect of an organizational process, do so for–

the purpose of management to make decisions based on information those measurements provide. Implicit here is the recognition, also held by one of ordinary skill in the art, that a problem identified by these measurements (e.g. a process IP measurement in Germeraad that is unacceptable; or a quality measurement in Klenz that suggests a measurement is too high or low) requires a solution - management exists to manage problems highlighted by the measurement systems taught by both Germeraad and Klenz.

Germeraad and Klenz do not teach forecasting in time data for their combined teachings, as per:

identifying trends for each sub-aspect based on the plurality of ideal characteristic variables; and

choosing a future point in time;

defining a desired target at the future point in time for each sub-aspect based on the identified trends;

deriving values for the actual characteristic variables of the sub-aspects at the future point in time based on the actual characteristic variables of the sub-aspects at the observation point in time

Jiang teaches:

identifying trends for each sub-aspect based on the plurality of ideal characteristic variables; and

page 513 column 1, the one step ahead approach uses existing trends of variables (i.e. sub aspects) based on whether they are in control according to an SPC approach (i.e. ideal characteristic values).

choosing a future point in time;

page 513 column 1, the "one step ahead" APC and SPC approach chooses a future point in time

defining a desired target at the future point in time for each sub-aspect based on the identified trends;

page 513 column 1, the one step ahead approach defines a future point that is consistent with past SPC measurements (i.e. a desired target being the maintenance of the process control).

deriving values for the actual characteristic variables of the sub-aspects at the future point in time based on the actual characteristic variables of the sub-aspects at the observation point in time

page 513 column 1, a forecast is derived for the one step ahead (i.e. values derived for the actual characteristic values based on the actual values at the observation point in time.-see discussion column 2.

Jiang teaches the incorporation of automatic process control (APC) into the statistical process control to provide feedback control of processes. Accordingly, Jiang, Germeraad and Klenz all address issues with process management and thus are analogous art.

One of ordinary skill in the art at the time of the invention would have recognized the benefits of using a forecast technique (i.e. "one step ahead") that minimizes mean square error (see page 513 column 1) would have provided the benefit of extending the SPC and APC to incorporate forecasting into a process control regimen and approach, as taught by Germeraad and Klenz to thus realize the benefits of using forecasting to predict where a process is going and thus better anticipate control approaches. The combination of the limitations of Germeraad, Klenz and Jiang also provide a predictable result of the combination of these teachings known in the art - no functionality of any of the references is destroyed by the combination.

Regarding **Claim 4**, Germeraad and Klenz do not teach performing the method with a device that comprises a storage area and a module with a display, However Official Notice is taken that performing method steps using a computer with a storage, processor and a display are old and well known in the art. It would have been obvious to perform the method steps of Claim 3 using a computer because it would make the performing of the method faster and more efficient since it is being performed on a computer.

Regarding **Claims 5 and 7** Germeraad does not teach, but Klenz teaches suggesting a way to correct a deviation of a subaspect. On page 3 paragraph 6, Klenz teaches making "guided decisions" based on historical information – this suggests

correcting a deviation of a subaspect. This list suggests the "best way" to correct a deviation as much as has been disclosed by the applicant.

8. **Claims 6 and 8** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Germeraad** in view of **Klenz** in view of **Jiang** and further in view of:

"Feedback and feedforward as systemic frameworks for operations control" Alan **Fowler**. International Journal of Operations & Production Management. Bradford: 1999. Vol. 19, Iss. 2; pg. 182, (hereinafter **Fowler**).

Regarding **Claims 6 and 8**, Germeraad and Klenz teach the gathering and displaying of data for the purpose of enabling management decisions to improve the underlying process represented by the data. Klenz in particular suggests that analysis of historical data suggests how management can fix process problems using this analysis as a guide (this addresses individual process variables). however Germeraad, Klenz and Jiang stop short of teaching the feedback control (i.e. providing a feedback control loop) for the purpose of enabling the process to be controlled.

Fowler suggests the use of feedback control to control processes – this suggests the use of a control to change and correct a variable that is being measured – see bottom of page 3/ top of page 4: here Fowler teaches the control of an input to control the same kind of business variables taught by Germeraad - i.e.a business process variables.

Thus one of ordinary skill in the art at the time of the invention would have modified the teachings of Germeraad, Jiang and Klenz regarding the measurement of business process variables, to include the step of providing a process input to control the outputs being measured, because it would have provided a predictable result by incorporating a feedback control loop. One of ordinary skill in the art at the time of the invention would have recognized the advantages of incorporating Fowler's teachings because it would have provided a way to correct the variable being measured.

The examiner notes that providing a feedback control for each variable is nothing more than a duplication of parts (In re Harza, 274 F.2d 669, 124 USPQ 378 (CCPA 1960)) and would have been obvious to one of ordinary skill in the art to modify the cited references of Germeraad, Jiang and Klenz and Fowler to include providing a feedback control for each variable since Fowler teaches doing so for at least one variable and it is well settled that duplication of elements does not convey patentability (i.e. having adjustable controls for more than one variable, i.e. each variable, when the reference teaches doing so for at least one variable).

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan G. Sterrett whose telephone number is 571-272-6881. The examiner can normally be reached on 8-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Beth Boswell can be reached on 571-272-6737. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published

applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JGS 10-15-2009

/Jonathan G. Sterrett/

Primary Examiner, Art Unit 3623